

[illegible]

• • • •

```

LL               IIIIII               SSSSSSSS
LL               IIIIII               SSSSSSSS
LL               II                    SS
LL               II                    SS
LL               II                    SS
LL               II                    SS
LL               II                    SSSSSS
LL               II                    SSSSSS
LL               II                    SS
LL               II                    SS
LL               II                    SS
LL               II                    SS
LL               II                    SSSSSS
LLLLLLLLLLLLLL  IIIIII               SSSSSSSS
LLLLLLLLLLLLLL  IIIIII               SSSSSSSS

```

(2) 52
(3) 74

DECLARATIONS
GET_DEVICE_INFO - Collect device information

```
0000 1      .TITLE GET_DEVICE_INFO - Get device information
0000 2      .IDENT 'V04-000'
0000 3
0000 4
0000 5      *****
0000 6      *
0000 7      *  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY
0000 8      *  DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.
0000 9      *  ALL RIGHTS RESERVED.
0000 10     *
0000 11     *  THIS SOFTWARE IS FURNISHED UNDER A LICENSE AND MAY BE USED AND COPIED
0000 12     *  ONLY IN ACCORDANCE WITH THE TERMS OF SUCH LICENSE AND WITH THE
0000 13     *  INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR ANY OTHER
0000 14     *  COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY
0000 15     *  OTHER PERSON. NO TITLE TO AND OWNERSHIP OF THE SOFTWARE IS HEREBY
0000 16     *  TRANSFERRED.
0000 17     *
0000 18     *  THE INFORMATION IN THIS SOFTWARE IS SUBJECT TO CHANGE WITHOUT NOTICE
0000 19     *  AND SHOULD NOT BE CONSTRUED AS A COMMITMENT BY DIGITAL EQUIPMENT
0000 20     *  CORPORATION.
0000 21     *
0000 22     *  DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE OR RELIABILITY OF ITS
0000 23     *  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.
0000 24     *
0000 25     *
0000 26     *****
0000 27
0000 28     ++
0000 29     FACILITY: Performance Monitoring
0000 30
0000 31     ABSTRACT:
0000 32     Collects device information for performance
0000 33     monitoring and returns same in supplied buffer.
0000 34
0000 35     ENVIRONMENT:
0000 36     MODE = KERNEL
0000 37
0000 38     AUTHOR: S. S. AMWAY, CREATION DATE: 24-Oct-83
0000 39
0000 40     MODIFIED BY:
0000 41
0000 42     V03-002 SSA0024      Stan Amway      9-Apr-1984
0000 43     Ignore disk UCB's with CDP bit set in UCB$DEVCHAR2.
0000 44     (No I/O can ever take place to these units.)
0000 45
0000 46     V03-001 SSA0006      Stan Amway      1-Feb-1984
0000 47     Call IOC$CVT_DEVNAM requesting allocation
0000 48     class format of device name.
0000 49
0000 50     --
```

GET_DEVICE_INFO
V04=000

- Get device information
DECLARATIONS

K 9

16-SEP-1984 02:16:06
5-SEP-1984 04:36:53

VAX/VMS Macro V04-00
[UTIL32.SRC]GETDINFO.MAR;1

Page 2
(2)

```
0000 52      .SBTTL  DECLARATIONS
0000 53
0000 54 :
0000 55 : INCLUDE FILES:
0000 56 :
0000 57
0000 58      $DCDEF
0000 59      $DEVDEF
0000 60      $SSDEF
0000 61      $UCBDEF
0000 62
0000 63 :
0000 64 : EQUATED SYMBOLS:
0000 65 :
0000 66
00000004 0000 67 BUFADDR=4
00000008 0000 68 BUFLN=8
0000000C 0000 69 DCLASS=12
00000010 0000 70 DEVTYPE=16
00000014 0000 71 DEVCOUNT=20
0000 72
```

```
0000 74 .SBTTL GET_DEVICE_INFO - Collect device information
0000 75
0000 76 :++
0000 77 : FUNCTIONAL DESCRIPTION:
0000 78 : Collects device information for specified device classes & types.
0000 79
0000 80 : CALLING SEQUENCE:
0000 81 : CALLS/CALLG GET_DEVICE_INFO
0000 82
0000 83 : INPUT PARAMETERS:
0000 84 : 4(AP)=Buffer address
0000 85 : 8(AP)=Buffer length
0000 86 : 12(AP)=Device class
0000 87 : 16(AP)=Device type
0000 88
0000 89 : IMPLICIT INPUTS:
0000 90 : NONE
0000 91
0000 92 : OUTPUT PARAMETERS:
0000 93 : 20(AP)=Count of devices in buffer
0000 94
0000 95 : IMPLICIT OUTPUTS:
0000 96 : Buffer is filled with device data
0000 97
0000 98 : COMPLETION CODES:
0000 99 : $$$_NORMAL
0000 100 : $$$_INSFARG
0000 101 : $$$_IVBUFLN
0000 102 : $$$_ACCVIO
0000 103
0000 104 : SIDE EFFECTS:
0000 105 : NONE
0000 106
0000 107 :--
0000 108 .PSECT $CODE , PIC,CON,REL,LCL, SHR, EXE, RD,NOWRT, LONG
0000 109
0000 110 .ENTRY GET_DEVICE_INFO,^M<R2,R3,R4,R5,R6,R7,R8,R9,R10,R11>
50 0114 8F 3C 0002 111 MOVZWL #$$$_INSFARG,R0
05 05 6C D1 0007 112 CMPL (AP),#5 ; Must have 5 arguments
03 13 000A 113 BEQL 5$
00AF 31 000C 114 1$: BRW 9999$
50 034C 8F 3C 000F 115 5$: MOVZWL #$$$_IVBUFLN,R0
57 08 AC D0 0014 116 MOVL BUFLN(AP),R7 ; R7 <= buffer length
58 57 20 C7 0018 117 DIVL3 #32,R7,R8 ; R8 <= max # of devices
EE 15 001C 118 BLEQ 1$ ; Error if <= 0
56 04 AC D0 001E 119 MOVL BUFADDR(AP),R6 ; R6 <= buffer address
50 50 0C 3C 0022 120 MOVZWL #$$$_ACCVIO,R0
0025 121 IFNOWRT SIZ=R7,- ; Make sure buffer
0025 122 ADR=(R6),-
0025 123 DEST=1$
002B 124 IFNOWRT SIZ=#4,- ; and device name counter
002B 125 ADR=@DEVCOUNT(AP),- ; are writable
002B 126 DEST=1$
14 BC D4 0032 127 CLRL @DEVCOUNT(AP) ; Zero device name counter
54 00000000'GF D0 0035 128 MOVL G^SCH$GL_CURPCB,R4 ; R4 <= PCB address of this process
00000000'GF 16 003C 129 JSB G^SCH$IOLOCKR ; Lock I/O database (returns @ IPL 2)
5A 7C 0042 130 CLRQ R10 ; Clear UCB/DCB context
```

```
00000000'GF 16 0044 131 10$: JSB G^IOC$SCAN_IODB ; Get next device UCB address
5E 50 E9 004A 132 BLBC R0,100$ ; Quit if done
0C AC 95 004D 133 TSTB DCLASS(AP) ; Accept all devices classes ?
0B 19 0050 134 BLSS 20$ ; BR if yes
40 AA 0C AC 91 0052 135 CMPB DCLASS(AP),UCB$B_DEVCLASS(R10) ; Device class match ?
04 13 0057 136 BEQL 20$ ; BR if yes
5A D4 0059 137 CLRL R10 ; Skip entire controller
E7 11 005B 138 BRB 10$
10 AC 95 005D 139 20$: TSTB DEVTYPE(AP) ; Accept all device types ?
09 19 0060 140 BLSS 30$ ; BR if yes
41 AA 10 AC 91 0062 141 CMPB DEVTYPE(AP),UCB$B_DEVTYPE(R10) ; Device type match ?
02 13 0067 142 BEQL 30$ ; BR if yes
D9 11 0069 143 BRB 10$ ; Get next device
01 40 AA 91 006B 144 30$: CMPB UCB$B_DEVCLASS(R10),#DC$_DISK ; If disk device and
CE 3C AA 05 12 006F 145 BNEQ 40$ ; CDP bit set,
86 5A E0 0071 146 BBS #DEV$V_CDP,UCB$L_DEVCHAR2(R10),10$ ; get next device
57 04 C2 0079 147 40$: MOVL R10,(R6)+ ; Buffer gets UCB address
51 56 D0 007C 148 SUBL2 #4,R7 ; R7 <= updated buffer length
50 57 D0 007F 149 MOVL R6,R1 ; R1 <= buffer address
54 01 D0 0082 150 MOVL R7,R0 ; R0 <= buffer length
55 5A D0 0085 151 MOVL #1,R4 ; R4 <= Format control
00000000'GF 16 0088 152 MOVL R10,R5 ; R5 <= UCB address
1A 50 E9 008E 153 JSB G^IOC$CVT_DEVNAM
66 10 20 66 51 2C 0091 154 BLBC R0,100$
56 53 D0 0097 155 MOVCS R1,(R6),#^A/ /,#16,(R6) ; Pad device name to 16 characters
86 38 AA 7D 009A 156 MOVL R3,R6 ; R6 <= updated buffer address
009E 157 MOVQ UCB$Q_DEVCHAR(R10),(R6)+ ; Get device characteristics
009E 158
009E 159 ASSUME UCB$B_DEVTYPE EQ UCB$B_DEVCLASS+1
009E 160
40 AA 3C 009E 161 MOVZWL UCB$B_DEVCLASS(R10),- ; Get device class & type
86 00A1 162 (R6)+
57 1C C2 00A2 163 SUBL2 #28,R7 ; R7 <= updated buffer length
14 BC D6 00A5 164 INCL @DEV$COUNT(AP) ; Count another device name
99 58 F5 00A8 165 SOBGTR R8,10$
54 00000000'GF D0 00AB 166 100$: MOVL G^SCH$GL_CURPCB,R4 ; R4 <= PCB address of this process
00000000'GF 16 00B2 167 JSB G^SCH$IOUNLOCK ; Unlock I/O database
00B8 168 SETIPL #0 ; Restore IPL
50 01 3C 00BB 169 9998$: MOVZWL #SS$_NORMAL,R0
04 00BE 170 9999$: RET
00BF 171
00BF 172 .END
```

GET_DEVICE_INFO Symbol table

- Get device information

N 9

16-SEP-1984 02:16:06 VAX/VMS Macro V04-00
5-SEP-1984 04:36:53 [UTIL32.SRC]GETDINFO.MAR;1

Page 5
(3)

```

BUFADDR      = 00000004
BUFLN       = 00000008
DC$ DISK    = 00000001
DCLASS      = 0000000C
DEVSV CDP   = 00000003
DEVCOUNT    = 00000014
DEVTYPE     = 00000010
GET_DEVICE_INFO 00000000 RG 02
IO$CVT DEVNAM ***** X 02
IO$SCAN_IODB ***** X 02
PR$ IPL      ***** X 02
SCH$GL_CURPCB ***** X 02
SCH$IOLOCKR ***** X 02
SCH$IOUNLOCK ***** X 02
SS$ ACCVIO   = 0000000C
SS$ INSFARG  = 00000114
SS$ IVBUFLN  = 0000034C
SS$ NORMAL   = 00000001
UCB$B_DEVCLASS = 00000040
UCB$B_DEVTYPE = 00000041
UCB$L_DEVCHAR2 = 0000003C
UCB$Q_DEVCHAR = 00000038

```

! Psect synopsis !

PSECT name	Allocation	PSECT No.	Attributes
. ABS .	00000000 (0.)	00 (0.)	NOPIC USR CON ABS LCL NOSHR NOEXE NORD NOWRT NOVEC BYTE
\$AB\$\$	00000000 (0.)	01 (1.)	NOPIC USR CON ABS LCL NOSHR EXE RD WRT NOVEC BYTE
\$CODE	000000BF (191.)	02 (2.)	PIC USR CON REL LCL SHR EXE RD NOWRT NOVEC LONG

! Performance indicators !

Phase	Page faults	CPU Time	Elapsed Time
Initialization	48	00:00:00.10	00:00:00.65
Command processing	165	00:00:00.68	00:00:02.62
Pass 1	288	00:00:08.89	00:00:24.95
Symbol table sort	0	00:00:01.52	00:00:02.84
Pass 2	46	00:00:01.51	00:00:03.27
Symbol table output	4	00:00:00.07	00:00:00.13
Psect synopsis output	1	00:00:00.03	00:00:00.02
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	554	00:00:12.82	00:00:34.49

The working set limit was 1350 pages.
49304 bytes (97 pages) of virtual memory were used to buffer the intermediate code.
There were 60 pages of symbol table space allocated to hold 1026 non-local and 9 local symbols.
172 source lines were read in Pass 1, producing 16 object records in Pass 2.
14 pages of virtual memory were used to define 13 macros.

+-----+
! Macro library statistics !
+-----+

Macro library name	Macros defined
-----	-----
\$255\$DUA28:[SYS.OBJ]LIB.MLB;1	3
\$255\$DUA28:[SYSLIB]STARLET.MLB;2	7
TOTALS (all libraries)	10

1105 GETS were required to define 10 macros.

There were no errors, warnings or information messages.

MACRO/LIS=LISS:GETDINFO/OBJ=OBJ\$:GETDINFO MSRC\$:GETDINFO/UPDATE=(ENH\$:GETDINFO)+EXECMLS/LIB

0429 AH-BT13A-SE
VAX/VMS V4.0

DIGITAL EQUIPMENT CORPORATION
CONFIDENTIAL AND PROPRIETARY

